

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

**(19) World Intellectual Property Organization
International Bureau**



A standard linear barcode is located at the bottom of the page, spanning most of the width. It consists of vertical black bars of varying widths on a white background.

**(43) International Publication Date
20 October 2005 (20.10.2005)**

PCT

(10) International Publication Number
WO 2005/098429 A3

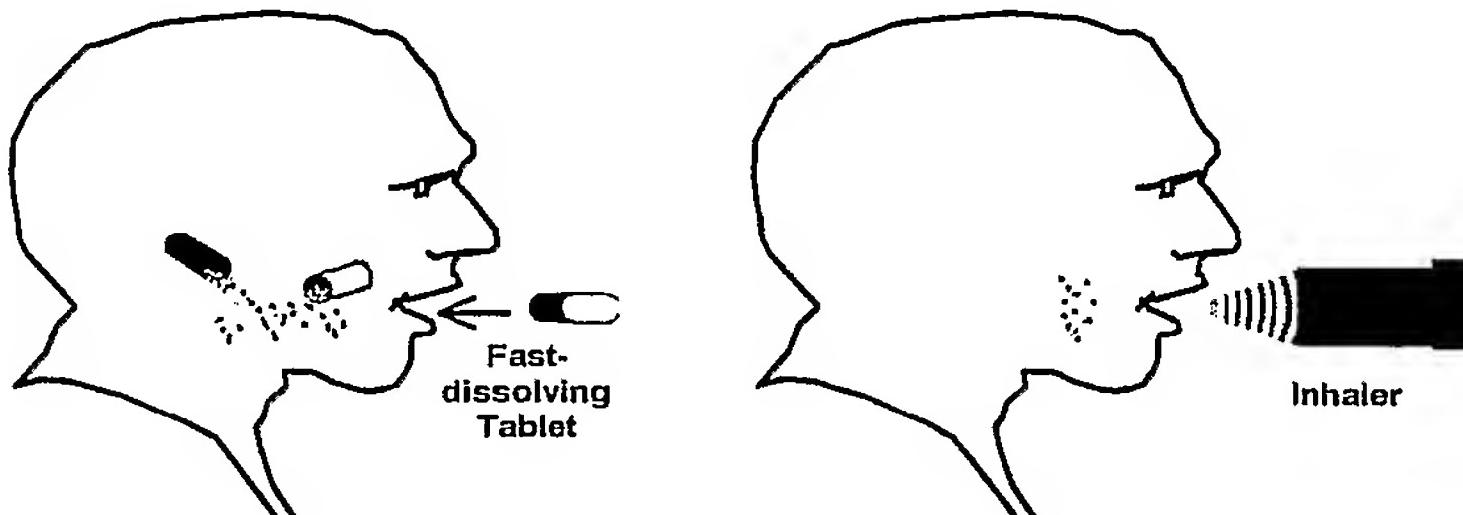
(51) International Patent Classification:	G01N 33/543 (2006.01) A61K 9/51 (2006.01)	US Filed on US Filed on US Filed on US Filed on US Filed on US	10/744,789 (CIP) 23 December 2003 (23.12.2003) 10/345,532 (CIP) 16 January 2003 (16.01.2003) 10/274,829 (CIP) 21 October 2002 (21.10.2002) 10/154,201 (CIP) 22 May 2002 (22.05.2002) 10/722,620 (CIP) 26 November 2003 (26.11.2003)
(21) International Application Number:	PCT/US2005/006355		
(22) International Filing Date:	28 February 2005 (28.02.2005)		
(25) Filing Language:	English	Filed on	
(26) Publication Language:	English	Filed on	
(30) Priority Data:	10/788,501 26 February 2004 (26.02.2004) US	Priority	(71) Applicant (for all designated States except US): UNIVERSITY OF FLORIDA RESEARCH FOUNDATION, INC. [US/US]; 223 Grinter Hall, Gainesville, FL 32611 (US).
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US	09/708,789 (CON)		
Filed on	8 November 2000 (08.11.2000)		
US	10/788,501 (CIP)		
Filed on	26 February 2004 (26.02.2004)		
US	10/178,877 (CIP)		
Filed on	24 June 2002 (24.06.2002)		
US	10/054,619 (CIP)		
Filed on	22 January 2002 (22.01.2002)		

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(54) Title: SYSTEM AND METHOD FOR REAL-TIME DIAGNOSIS, TREATMENT, AND THERAPEUTIC DRUG MONITORING

Patient Compliance Monitoring System

Step 1 - Medication is taken, releasing Marker Compound



Marker compound is released by dosage form for detection

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(57) Abstract: Systems and methods for diagnosing and/or treating diseases as well as monitoring disease treatment. For diagnosis, the present invention uses nanoparticle-based assemblies, which comprise a nanoparticle; a surrogate marker; and a means for detecting a specific chemical entity. In certain embodiments, nanoparticle-based assemblies include a payload for simultaneous diagnosis and treatment of disease. In further embodiments, a therapeutic drug and therapeutic drug marker are administered to a patient to monitor disease treatment. Bodily fluid samples are analyzed using sensor technology to detect the presence of surrogate and/or therapeutic drug markers to provide an efficient and accurate means for diagnosing a disease and/or monitoring disease treatment.



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(81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US (patent), UZ, VC, VN, YU, ZA, ZM, ZW.

(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report*

(88) **Date of publication of the international search report:**
26 May 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.